Claims

1. A display panel comprising:

a data line transferring a data signal;

a scan line transferring a scan signal;

a switching part formed in a unit pixel defined by the data and scan lines to control an output of the data signal in response to the scan signal;

a current supply line disposed on at least two sides of the unit pixel to transfer a current, the sides disposed adjacent to one another;

an organic electro luminescent part generating a light in response to the current; and

a driving part disposed between the organic electro luminescent part and the current supply line to control the current in response to the data signal outputted from the switching part, the current flowing between the organic electro luminescent part and the current supply line.

2. The display panel of claim 1, wherein the current supply line comprises:

a first current supply line extended in a first direction to receive a first voltage; and

a second current supply line extended in a second direction that is different from the first direction to receive a second voltage,

and wherein the first current supply line is electrically connected to the second current supply line.

3. The display panel of claim 2, further comprising a pixel electrode electrically connected to the driving part, and wherein the first current supply line

and the data line are formed from a first layer and the second current supply line and the pixel electrode are formed from a second layer.

4. The display panel of claim 3, wherein the second current supply line is overlapped with the scan line.

5. The display panel of claim 2, further comprising a pixel electrode electrically connected to the driving part, and wherein the first current supply line and the data line are formed from a first layer, and the second current supply line and the scan line are formed from a second layer.

6. The display panel of claim 5, further comprising a third current supply line extended in the first direction to receive a third voltage, the third current supply line being electrically connected to the second current supply line.

7. The display panel of claim 2, further comprising a pixel electrode electrically connected to the driving part, and wherein the first current supply line and the data line are formed from a first layer so that the first current supply line is overlapped with the scan line, and the second current supply line and the pixel electrode are formed from a second layer so that the second current supply line is overlapped with the data line.

8. The display panel of claim 2, further comprising a storage capacitor disposed between the first current supply line and the driving part.

9. The display panel of claim 2, wherein the display panel comprises a plurality of the first current supply lines, a plurality of the second current supply

lines and a plurality of the unit pixels, the second current supply lines being electrically connected to the first current supply lines at every unit pixels.

10. The display panel of claim 1, wherein the display panel comprises a plurality of the first current supply lines, a plurality of the second current supply lines and a plurality of the unit pixels, and wherein one of the second current supply lines is electrically connected to a portion of the first current supply lines, and each of the first current supply lines is electrically connected to a plurality of the unit pixels.

11. The display panel of claim 2, wherein the first current supply line is substantially in parallel with the data line, and the second current supply line is substantially in parallel with the scan line.

12. The display panel of claim 2, wherein the first current supply line is substantially in parallel with the scan line, and the second current supply line is substantially in parallel with the data line.

13 The display panel of claim 2, wherein a level of the first voltage is substantially equal to a level of the second voltage.

14. The display panel of claim 2, wherein the switching part, the organic electro luminescent part and the driving part are disposed on the unit pixel defined by the data and scan lines, and the first current supply line is electrically connected to the unit pixel and an adjacent pixel disposed at a position adjacent to the unit pixel.

15. The display panel of claim 1, wherein the driving part comprises a first transistor, and the first transistor comprises a P-channel metal oxide semiconductor (PMOS) transistor or an N-channel metal oxide semiconductor (NMOS) transistor.

16. The display panel of claim 1, wherein the switching part comprises a second transistor, and the second transistor comprises a P-channel metal oxide semiconductor (PMOS) transistor or an N-channel metal oxide semiconductor (NMOS) transistor.

17. A method of manufacturing a display panel comprising:

forming a scan line, a control electrode electrically connected to the scan line, and a storage capacitor line spaced apart from the scan line;

forming a data line, a first current supply line, a first pattern defining a first electrode of a driving transistor, and a second pattern defining a first electrode of a switching transistor; and

forming a pixel electrode and a second current supply line spaced apart from the pixel electrode, the pixel electrode being formed in a region defined by the scan and data lines.

18. The method of claim 17, wherein the first current supply line and the data line are formed from a same layer.

19. The method of claim 17, wherein the second current supply line and the pixel electrode are formed from a same layer.

20. The method of claim 19, wherein the second current supply line is overlapped with the scan line.

21. The method of claim 17, prior to the forming of the scan line, the control electrode and the storage capacitor line, further comprising forming a first active layer for the driving transistor and a second active layer for the switching transistor.

22. The method of claim 21, wherein each of the first and second active layers is selected from the group consisting of a polysilicon layer, an amorphous silicon layer, a nano-wire layer, a single crystalline layer and a nano-crystalline layer.

23. The method of claim 21, wherein the first and second patterns are formed by:

forming a first insulating interlayer on a substrate having the scan line and the control electrode; and

forming first to fifth contact holes, the first active layer being partially exposed through the first and second contact holes, the second active layer being partially exposed through the third and fourth contact holes, a control electrode of the driving transistor being electrically connected to the first electrode of the switching transistor through the fifth contact hole.

24. The method of claim 23, wherein the first and second patterns are formed by:

forming a second insulating interlayer; and

forming a sixth contact hole and a seventh contact hole, the first electrode of the driving transistor being partially exposed through the sixth contact hole so as to be electrically connected to the pixel electrode, the first current supply line being

partially exposed through the seventh contact hole so as to be electrically connected to the second current supply line.

25. The method of claim 17, further comprising:

forming a partition wall defining a light emitting region;

forming an organic electro luminescent layer in the light emitting region; and

forming a counter electrode on the organic electro luminescent layer and the partition wall.

26. A method of manufacturing a display panel comprising:

forming a scan line, a control electrode electrically connected to the scan line, a first current supply line substantially in parallel with the scan line, and a storage capacitor line extended in a longitudinal direction;

forming a data line, a second current supply line, a first pattern defining a first electrode of a driving transistor, and a second pattern defining a first electrode of a switching transistor; and

forming a pixel electrode and a third current supply line spaced apart from the pixel electrode, the pixel electrode being formed in a region defined by the scan and data lines.

27. The method of claim 26, wherein the first current supply line and the scan line are formed from a same layer.

28. The method of claim 26, wherein the second current supply line and the data line are formed from a same layer.

29. The method of claim 26, wherein the third current supply line and the

pixel electrode are formed from a same layer.

30. The method of claim 26, wherein the third current supply line is overlapped with the data line.

31. The method of claim 30, wherein the third current supply line is electrically connected to the first current supply line and the data line.

32. The method of claim 26, further comprising:

forming a partition wall defining a light emitting region;

forming an organic electro luminescent layer in the light emitting region; and

forming a counter electrode on the organic electro luminescent layer and the partition wall.

33. A display apparatus comprising:

a column driver receiving an image signal and a first timing signal to output a data signal;

a low driver receiving a second timing signal to output a scan signal;

a voltage supplier receiving a voltage control signal to output a first voltage and a second voltage; and

a display panel controlling an amount of a current formed by the first and second voltages in response to the first voltage, the second voltage, the scan signal and the data signal to generate a light.

34. The display apparatus of claim 33, further comprising a timing controller receiving the image signal and a control signal of the image signal to output the image signal and the first timing signal to the column driver, the timing

controller outputting the second timing signal to the low driver, the timing controller outputting the voltage control signal to the voltage supplier.

35. The display apparatus of claim 33, the display panel comprises:

a data line transferring the data signal;

a scan line transferring the scan signal;

a switching part formed in a unit pixel defined by the data and scan lines to control an output of the data signal in response to the scan signal;

a current supply line disposed on at least two sides of the unit pixel to transfer a current, the sides being disposed adjacent to one another;

an organic electro luminescent part generating a light in response to the current; and

a driving part disposed between the organic electro luminescent part and the current supply line to control the current in response to the data signal outputted from the switching part, the current flowing between the organic electro luminescent part and the current supply line.

36. The display apparatus of claim 35, wherein the current supply line comprises:

a first current supply line extended in a first direction to receive a first voltage through a first end portion; and

a second current supply line extended in a second direction that is different from the first direction to receive a second voltage through a third end portion,

and wherein the first current supply line is electrically connected to the second current supply line.

37. The display apparatus of claim 36, further comprising a plurality of the

unit pixels, a plurality of the first current supply lines and a plurality of the second current supply lines electrically connected to the first current supply lines at every unit pixels.

38. The display apparatus of claim 36, further comprising a plurality of the unit pixels, a plurality of the first current supply lines corresponding to a plurality of the unit pixels and a plurality of the second current supply lines electrically connected to a portion of the first current supply lines, and wherein a density of the connection gradually increases in proportion to a distance from the first end portion.

39. The display apparatus of claim 36, further comprising a plurality of the unit pixels, a plurality of the first current supply lines and a plurality of the second current supply lines, and wherein a portion of the second current supply lines spaced apart from the first end portion is electrically connected to the first current supply lines.

40. The display apparatus of claim 36, wherein the first voltage is applied to a second end portion of the first current supply line.

41. The display apparatus of claim 36, wherein the second voltage is applied to a fourth end portion of the second current supply line.